



Seminar on Finance – Real Options

Summer term 2015

Organization

The seminar is aimed at master students who are interested in writing their thesis in the research area of Corporate Finance. It is particularly suited for those students who participated in the course *Advanced Corporate Finance 1 – Capital Structure* in the winter term. However, this is not a formal prerequisite.

Students have to register by sending an email with a one-page CV and current grade transcript to finance@wiwi.uni-tuebingen.de until **April 19 (end of day)**.

The kick-off event takes place on Monday, **April 20 at 11 AM (room 332, Wiwi Seminar Mohlstraße)**. The attendance of all participants at the kick-off event is compulsory. At the kick-off, the topics will be shortly introduced and assigned to groups of 2 or 3 students (depending on the total number of participants), who will collaborate on the respective topic.

The topics will be assigned based on the following procedure: Students indicate their preferences. We randomly select a student, who will be assigned to her or his first choice. The next student, who is again randomly selected, receives her or his highest preference only in case the respective group is not complete yet. In case the topic is not available any more, the student will be assigned to the second highest preference and so on.

The papers and abstracts have to be delivered to the offices of the Department of Finance by Thursday, **June 18 at 11 AM**. Each group should submit two stapled printouts (no hardcover or binding required) as well as an electronic copy (including the text in pdf as well as all data and computations).

The final presentations will take place in the first week of July, well in advance of the exam period. The tentative date is **Thursday, July 2**.

Topics

The seminar deals with real options, i.e. options embedded in investment projects. These options are often ignored in the valuation of such projects. The objective is to build a model for the valuation of a specific real option, to calibrate the model using real-world data and to evaluate the economic and financial consequences of the option.

The following topics are available. Options 1 and 2 concern the initiation and termination of a project. Options 3 and 4 concern the scope of the project. Option 5 concerns the lifetime of the project. Options 6 and 7 concern the choice of technology.

1. Option to abandon
2. Option to defer
3. Option to expand
4. Option to contract
5. Option to extend
6. Option to mix inputs (optional)
7. Option to mix outputs (optional)

Experience in the use of spreadsheet software (like Microsoft Excel) is useful. Alternatively, students may want to familiarize themselves with advanced academic software packages like LaTeX and MATLAB to prepare for their final thesis.

Grading

The grading (9 ECTS) is based on the following three components:

- **Paper (40%):** Each group writes a joint paper. The paper is limited to a maximum of 15 pages for the main part in groups of 2 and to a maximum of 20 pages for the main part in groups of 3. The cover page, table of contents and the appendix do not count towards this limit. In addition, each group prepares a one-page abstract summarizing the main findings in bullet points. We will also provide scientific guidelines, which each paper has to satisfy.
- **Presentation (40%):** It is expected that each group member presents a share of the joint work. Each group has a net presentation time of 20 minutes (groups of 2) or 30 minutes (groups of 3). Great importance is attached to a thorough discussion in order to shed light on the topics from different perspectives and to respond to questions. Therefore, the total time available per group is about 90 minutes.

- **Participation (20%):** The critical reflection of research is an important part of academic work. Therefore, we also reward the participation in the discussion of other groups' work. The papers and abstracts will be made available to everyone in advance for preparation.

All three components must to be graded at least as sufficient (*ausreichend*) to pass.

Further information

Books on option valuation

- Hull, J. C., "Options, Futures and other Derivatives", 9th edition, Prentice-Hall, 2014.

Books on real options

- Amram, M. and N. Kulatilaka, "Real Options", Harvard Business School Press, 1999.
- Copeland, T. and V. Antikarov, "Real Options: A Practitioners Guide", Texere, 2003
- Trigeorgis, L., "Real Options: Managerial Flexibility and Strategy in Ressource Allocation", MIT Press, 1996.

Articles

- Luehrmann, T., "Strategy as a Portfolio of Real Options", *Harvard Business Review*, September-October 1998, 89–99.
- Mason, S. P. and R. C. Merton, "The Role of Contingent Claims Analysis in Corporate Finance", in E. Altman and M. Subrahmanyam (editors), *Recent Advances in Corporate Finance*, Richard D. Irwin, 1985.
- Triantis, A. and A. Borison, "Real Options: State of the Practice", *Journal of Applied Corporate Finance*, 14(2), 2001, 8–24.

Academic software packages

- MATLAB is a programming language capable of large numerical computations.
http://de.mathworks.com/academia/student_center/tutorials/launchpad.html
- LaTeX is a markup language for typesetting scientific and technical documents.
<http://ftp.uni-erlangen.de/mirrors/CTAN/info/lshort/english/lshort.pdf>